PINK BOLLWORM

PROGRAM PROFILE

Goal	To prevent infestations in the San Joaquin Valley of California, and provide risk based area wide management of PBW cooperatively with industry.
Enabling Legislation	7 USC 145; PL 65-64.
Economic Significance	The pink bollworm is capable of destroying a cotton crop. Losses in the Imperial Valley of California due to this pest exceeded $250 million, or about $300 per acre, each year between 1966 and 1980.
Principal Approach And Methods Used to Achieve Goals	The program is a cooperative effort involving survey, regulatory, and control activities. Pheromone sex lure traps are placed over extensive cotton acreage. In the San Joaquin Valley, sterile pink bollworms are released to effectively eliminate reproduction. Cultural practices (crop rotation, stalk destruction, alternate planting dates, and irrigation restrictions) are also used to control the pest population. California enforces plow-down and planting regulations. APHIS enforces the national quarantine (surveys and regulatory activities) and manages the sterile moth rearing facility in Phoenix, Arizona, and the moth releases in the San Joaquin Valley, California.
History	The program began in 1917, when the pink bollworm was first found in the southern United States. For over 40 years, the pest did little to expand its area of infestation. In 1965, this cotton pest began to spread through southern California, and in 1967, it moved into the San Joaquin Valley. Since then, the seasonal release of sterile moths have prevented the pink bollworm from becoming established in the Valley. Elsewhere, infestations occurred in Arizona, New Mexico, Nevada, Texas, and parts of Arkansas, Oklahoma, Louisiana, Mississippi, and Missouri.

State and Local Cooperation The San Joaquin Valley sterile moth program is conducted in cooperation with the State of California and cotton growers in that area. California contributes about 75 percent of the total program cost.

Involvement of Other Agencies State departments of agriculture, State land grant universities, State and Federal agencies, and industry.

RESOURCE DATA

----------Obligations----------

	Direct	Reimbursement	User Fees	Staff-Years
FY 1997	$1,033,072	--	--	21
FY 1998	$1,017,176	--	--	19
FY 1999	$1,128,363	--	--	17
FY 2000 (est.)	$1,316,000	--	--	17
FY 2001 (est.)	$1,074,000	--	--	16

	APHIS	Coop	Total	CCC	Contingency Fund
Cum.	$116,352,608	$136,688,800	$253,041,408		

RECENT ACCOMPLISHMENTS

Sterile Release Program The cooperative PBW sterile release program continued to protect cotton in the San Joaquin Valley of California. In FY 1999, the program trapped 429 non-sterile moths. APHIS produced approximately 1.482 billion sterile moths at the Phoenix, Arizona, rearing facility for subsequent release. The program continued to improve rearing efficiency and maintained production using less diet material, thereby reducing cost. Of the 1.482 billion moths produced, the program released 875 million sterile moths in the San Joaquin Valley, and released most of the remainder in southern California. The number of sterile moths released in 1999 was slightly less than in FY 1998 (951 million) due to a reduction in acreage and an earlier and shorter harvest period. In addition, program cooperators

monitored over 13,200 traps in the valley to detect any new introductions of pink bollworm.

The annual releases of sterile moths prevent native moths, which migrate into the San Joaquin Valley from the South, from mating successfully. This disruption in mating prevents the pest from establishing in nearly one million acres of high-yielding cotton. During FY 1999, a late-season tropical depression carried several hundred native moths up from southern California into the San Joaquin Valley. Many of these moths were caught in traps, but the situation will have to be monitored closely next spring to guard against early-season pest reproduction and establishment. Negative results from 2,397 traps in the Southeast confirmed the absence of pink bollworm.

Quarantine Area

The only quarantined area in the Mid-south, Craighead County, Arkansas, was free of pink bollworm in FY 1999. If traps remain negative in the coming season, we will be release this area from quarantine in FY 2001.

National Cotton Council Pink Bollworm Action Committee

On October 11-12, 1999, the National Cotton Council's Pink Bollworm Action Committee held its annual meeting in Phoenix, Arizona. The group reviewed the program and current plans for implementing an area-wide eradication program. The group discussed current research on this pest, and considered the impacts of any adjustments in refugia requirements for Bt cotton by the EPA. Refugia are portions of fields that are not treated in an effort to prevent pests from developing resistance. Larger refugia, for the purpose of reducing the risk of the pink bollworm developing resistance, will make an area-wide eradication program unfeasible.

Cooperative Efforts

In FY 1998-1999, we entered into a cooperative agreement with the University of Minnesota to determine if the pest could survive throughout most of the mid-South and Southeastern United States. The final report, received early in FY 1999, concluded that pink bollworm could survive in the Southeast. There was no prediction, however, regarding the actual severity of any new infestations. The potential threat

reinforces the need to control pink bollworm where it now exists.